

REMARKS

The application contains claims 1-28. Claims 1, 3-5, and 8-28 have been amended. No new matter has been added. In view of the foregoing amendments and following remarks, Applicant respectfully requests allowance of the application.

§ 101 Rejections

Claims 1-28 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Page 2 of the Office Action states that the claims must accomplish a practical application to qualify as statutory subject matter by either (1) transforming an article or physical object to a different state or thing; or (2) producing a useful, concrete, and tangible result. As described below, the claims meet both requirements.

The claims specify processes that are tied to a computer and accomplish a practical application

Features of the invention as claimed recite processes having practical applications that are tied to a machine, *i.e.*, a computer. Even if the claims of the present application are drawn to an abstract idea such as a mathematical formula, they will be patentable if reciting a practical application of the abstract idea which is tied to another category of statutory subject matter. See, e.g., *In re Comiskey*, No. 2006-1286 (Fed. Cir. 2006) ("[A] claim that involves both a mental process and one of the other categories of statutory subject matter (*i.e.*, a machine, manufacture, or composition) may be patentable under § 101."); *Diamond v. Diehr*, 450 U.S. 175, 187, 209 USPQ 1, 8 (1981) ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

A converted measurement is a measurement that is converted from one unit of measure to another (*e.g.*, a measurement in feet converted to a measurement in meters). To convert from one unit of measurement to another a conversion factor is used. Due to, for example, limitations in the amount of storage space allocated to conversion factors, conversion factors stored in a computer system may not be precise. This can ultimately cause a converted measurement to be imprecise due to rounding errors. For large scale manufacturers or other companies that deal with large volumes of materials, any rounding error in the conversion of a measurement from one unit to another can lead to sizeable and costly discrepancies when analyzed on a large scale (See, *e.g.*, paragraph 3 of the present application).

Each of independent claims 1, 5, 10, 14 and 18 specify how to provide a user with a more precise converted measurement based on the amount of memory storage space allocated to such measurement values and to the calculations related to conversion. As a result of the claimed methods, rounding errors which can lead to wasted resources and inaccurate measures of product inventory can be reduced, while still accommodating the limitations of a particular computing system memory. This allows the user presented with the conversion results to more accurately perform product planning or other tasks that rely on the precise representation of measurements in various units of measure. Because more precise converted measurements are useful pieces of information, and because such precise is now possible on computer systems having limited or less favorable memory systems, the claims recite steps that have practical application.

Additionally, Applicants submit that the claimed features for providing more accurate converted measurements are tied to another category of statutory subject matter because the processes are each clearly implemented via a computer system and/or are embodied on an article of manufacture. *See, e.g., In re Comiskey*, No. 2006-1286 (Fed. Cir. 2006). Because the claimed methods are for a practical application of a computer-implemented algorithm, Applicant submits that these more precise measurement conversion methods satisfy the requirements of 35 U.S.C. § 101.

The claims transform an article or physical object to a different state or thing

The independent claims recite steps such as:

- **storing the adjusted conversion relation and the increment quantity in a first computer-readable memory location**
- **storing the converted quantitative measurement in a second computer-readable memory location; and**
- **providing the converted quantitative measurement on a computer display unit to a user**

It is clear that the independent claims recite the storing of values in computer-readable memory areas as well as the presentation of information on a computer display to a user. As is known in the art, storing data in a computer-readable memory necessarily transforms a physical storage medium in which the data is stored to a different state. If this was not true, a computer would not be able to access the data at a later time, and no storage would actually be performed.

Further, displaying data to a user also necessarily transforms the state of a computer display. If this were not true, a computer display device could not be updated. Contrary to the assertion of the Office Action on page 2, the claims do not "merely involve calculations and manipulations of

data." Instead, the claims describe specific methods and structures for manipulating storage devices and display devices in a computer system. Such manipulation necessarily results in a physical transformation of a storage medium to a different state and necessarily results in a physical transformation of a display device to a different state. For at least this reason, the claims are statutory.

The claims produce a useful, concrete, and tangible result

The Office Action on page 2 asserts that the claims do not produce a useful, concrete, and tangible result because "[t]he result produced by the invention does not have a real world value but a merely numerical value without a practical application recited in the claims." However, this analysis ignores the meaning of the terms useful, concrete, and tangible as defined by the Interim Guidelines. According to the meaning of these terms as defined in the Interim Guidelines, each claim produces a useful, concrete and tangible result.

Representative independent claim 1 recites steps for, *inter alia*, adjusting a conversion relation between a base unit of measure and an alternative unit of measure, storing the adjusted conversion relation, using the adjusted conversion relation to convert measurements between the base and alternative units of measure, and presenting the converted measurements to a user. The method of claim 1 provides a user with a more precise conversion between various units of measure that can accommodate different degrees of precision (e.g., based on storage space) allowed with different units of measure. In turn, rounding errors which can lead to wasted resources and inaccurate measures of product inventory can be reduced. This allows the user presented with the conversion results to more accurately perform product planning or other tasks that rely on the precise representation of measurements in various units of measure.

The utility of generating more precise conversions of measurements between different units of measure that can accommodate limitations on storage allocations would be immediately apparent to one of skill in the art. Therefore, claim 1 produces a useful result.

The claims recite specific, clearly-defined steps and structures for generating more precise converted measurements. Additionally, the Office Action does not suggest that the claims represent an unrepeatable or unpredictable process. This is unsurprising as the determination of the adjusted conversion relation and conversions between units of measure using the adjusted conversion relation are repeatable using the method of claim 1. For at least this reason, claim 1 is concrete.

Lastly, it is respectfully noted that the Interim Guidelines indicate that the opposite meaning of "tangible" is "abstract." As discussed above, claim 1 is not abstract since claim 1 describes specific manipulations that are performed on and with physical entities (i.e., computer-readable memories and a computer display unit). Since the claims are not abstract, the Guidelines indicate that they are tangible. Therefore, claim 1 meets the tangible requirement.

Independent claims 5, 10, 14 and 18 recite limitations similar to those of claim 1 and so are also directed to statutory subject matter. Therefore, Applicant contends that claims 1-28 are directed to statutory matter and request that this rejection be reconsidered and withdrawn.

The claims do not preempt a §101 judicial exception

The Office Action on page 2 asserts that "since the claims appear to cover every substantial practical application, it is directed to a preemption of the claimed calculation." Contrary to the Office Action's assertion, the claims recite specific manipulations that are carried out using specific structures (e.g., memory locations and computer display units) within a computer system. Insofar as a specific algorithm is implemented by the claims, the claims do not preempt every possible application of the algorithm as asserted by the Office Action. Therefore the claims do not preempt a §101 exception, and so are statutory subject matter.

If the Examiner maintains this rejection in a subsequent Office Action, Applicants respectfully request that the Examiner identify the abstraction, law of nature, or natural phenomenon alleged to be preempted and explain why the claim covers every substantial practical application thereof, as required by M.P.E.P. §2106, Part IV(C)(2)(3).

Request for Interview

In order to advance prosecution, Applicant hereby requests an interview be conducted between Applicant's representative Wesley Jones and the Examiner if the Examiner does not believe the § 101 rejections are overcome by the amendments and arguments presented in this paper. Applicant respectfully requests the Examiner to contact Applicant's undersigned representative at the number provided below to arrange the interview based on the Examiner's availability.

CONCLUSION

Applicant respectfully requests entry of the above amendments and favorable action in connection with this application. The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. 1.16 or 1.17 to Kenyon & Kenyon Deposit Account No. 11-0600. The Examiner is invited to contact the undersigned at (202) 220-4419 to discuss any matter concerning this application.

All claims are allowable. Allowance is solicited.

Respectfully submitted,
KENYON & KENYON LLP

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